P L A N T I M M I G R A N T S

Issued monthly by the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, Department of Agriculture.

No. 95. March, 1914.

Matter in these multigraphed sheets must not be published without special permission.

Genera Represented in This Number.

Campomanesia	37491	Lonicera	37643
Carica	37577	Prunus	37474
Castanea	37547-548	Solanum	37566
Chimonanthus	37487-488	Spiraea	37610
	37522-524	Syringa	37647
Cotoneaster	37596-597	Tamarix	37483
Diospyros	37465-473	Viburnum	37612
	37525-540	Ziziphus	37475-476
	37543		37484
	37648-658		37489
	37661-667		37659
	37669-670		37668
	37672-678		

PLATES: Diospyros kaki. Persimmons.

(NOTE: Applications for material listed in these multigraphed sheets may be made at any time to this Office. As they are received they are filed, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders or others interested.)

Campomanesia sp. (Myrtaceae.) 37491. Seeds of a guabiroba from Sitio, Minas Geraes, Brazil. "A wild myrtaceous fruit called *guabiroba* by the natives. The plant is 10 to 12 feet high, and upright in growth. The fruits are oblate in form, an inch in diameter, orange yellow when ripe, containing one or two perfect seeds and several abortive ones, surrounded by white melting pulp, of rather acid and guava-like flavor." (Dorsett, Popenoe, and Shamel introduction.) For distribution later.

Carica papaya. (Caricaceae.) 37577. Seeds of a so-called 'seedless' papaya from Manila, Philippine Islands. Presented by Mr. William S. Lyon, collaborator. "One of these so-called seedless fruits has now perfected 26 and the other 35 seeds and at the same time we are still getting plenty of entirely empty fruits. After all, seedlessness is no especial virtue in a papaya even though the normal fruit found here bears always a double handful of seeds, several hundred at least, but seedlessness has the undoubted value of decreasing the size of the placental cavity and of greatly increasing the thickness of the flesh. Most of cur seedless fruits have had a pulp of from 30 to 32 mm. in thickness as opposed to an average of from 12 to 15 mm. in the unimproved kinds. These figures are from measurement and not by guess. If prolificacy be a trait worth cultivating, then this variety has it in a superlative degree. Only now about 16 months from the seed, we are eating the last of the third crop, aggregating for the three about 110 fruits, and a fourth crop due to begin to ripen in about one month. The greater part of the first crop I have sold at the rate of $15 per hundred, although as I indicated to you before, the greatly reduced size of the subsequent crops would depreciate their market value. Still another freak development I notice that would make the fixation of the variety even by vegetative means a matter of doubt. The freak noted is a sudden variation in form, the present crop showing a preponderance of oblong fruits, while a few are as round as a pomelo. This is a feature however that I surmise may lie much within the control of the cultivator. The immense size of the fruits and their position, one bearing down upon the other, has an undoubted tendency to elongate them. Careful thinning I believe would modify this to the extent of producing the rounder fruits that are desired." (Lyon.) For distribution later.

Castanea spp. (Fagaceae). 37547-548. Cuttings and seeds of chestnuts from the mountains south of Sianfu, Shensi, China. Two varieties, one remarkably large fruited and of low growth, the other said to have large fruits.

and is locally propagated by top grafting, and apparently very resistant to the bark fungus. The latter is suggested for trial as to its resistance on native American chestnut stock. (Meyer's introduction.) For distribution later. "While scarcely a timber tree as compared with our native species, it is nevertheless of good dimensions and apparently a quick and thrifty grower. The nuts are of really an excellent quality, though of only medium size, and are said to be produced freely at a comparatively early age. The especially promising quality, however, is a marked resistance, as demonstrated by experimental inoculations that have so far caused little harm, to the Endothia disease." (Walter Van Fleet, Journal of Heredity, vol. 5, no. 1, January 1914.)

Chimonanthus praecox. (Calycanthaceae.) 37487-488, 37522-524. Cuttings of the so-called Japanese allspice, closely related to our American Calycanthus, from Sianfu, Shensi, China. Five varieties, having waxy-yellow flowers of varying shades, and varying in the strength of their odor. All recommended as winter flowering shrubs for the mild-wintered sections of the United States. (Meyer's introduction.) For distribution later.

Cotoneaster divaricata. (Malaceae.) 37596. Seeds from the Royal Botanic Garden, Edinburgh, Scotland. Presented by the Director, Prof. I. Bayley Balfour. "This species of cotoneaster which is valued chiefly for its dark red, often long-persistent fruit is a native of Western China and was introduced into this country in 1909 by Mr. E. H. Wilson. It has been grown successfully in the gardens of the Arnold Arboretum where it has stood the winters without severe injury. It promises to become a valuable garden plant in this country." (Arnold Arboretum Bulletin of Popular Information. No. 19, April 25th, 1912.) For distribution later.

Cotoneaster pannosa. (Malaceae.) 37597. Seeds from the Royal Botanic Garden, Edinburgh, Scotland. Presented by the Director, Prof. I. Bayley Balfour. "This evergreen cotoneaster hails from Yunnan, China, and it is one of the finest berried winter shrubs in cultivation. This species makes a splendid specimen for the lawn as it has quite a graceful habit with its drooping, slender branches and small greyish green leaves. This cotoneaster is quite hardy in England and should do well against a wall, where it would make a good effect." (Gardener's Chronicle, March 4, 1913.) For distribution later.

Diospyros kaki. (Ebenaceae.) 37465-473, 37525-540, 37543, 37648-658, 37661-667, 37669-670, 37672-678. Cut-

tings of fifty-two varieties of persimmons from Honan, Shensi and Shansi provinces, China. Among these varieties are a number especially suited for drying for winter use, others seedless, and resembling the "Tamopan," others which can not be dried but will keep fresh nearly all winter, others cultivated for the sole purpose of distilling a brandy. Among them is one variety of which Mr. Mayer says, "The original wild form of the North Asiatic persimmon, from which probably nearly all cultivated varieties of so-called Oriental persimmons have been developed. Fruits are small, of globular shape, and of yellowish-green color. The taste is sour and astringent, and the fruits are full of seeds. The tree occurs on gently sloping mountain sides and on the edges of loose ravines, and is able apparently to stand a great amount of drought. Of medium dimensions, inclined to be low-branched, bark fairly smooth and scaly, of an ashy color. It is locally sparingly used as a stock for the cultivated varieties, but *Diospyros lotus* is preferred, as being thriftier and more easily reached."

Concerning the methods of drying persimmons the explorer writes, "To obtain a superior quality of dried persimmon the following method is used with this variety (S.P.I. No. 37648). In early October sound fruits are picked, which although ripe, must still be hard, care being taken to have the peduncle with a piece of twig attached to each fruit. The fruits are peeled by means of a small, special knife and an average worker can peel 2000 persimmons a day, while an expert brings it up to 3000. The peeled fruits are tied by means of their peduncles, on a loosely twisted, but strong sort of string, which hangs down in pairs vertically over horizontally placed beams which have been put up specially for this work. From 200 to 300 fruits are tied to each string and the work of tying starts by putting a couple of fruits at the bottom first, so as to keep the strings taut, after which the work progresses from top to bottom. The fruits are now left hanging for about twenty days, in a warm, sunny situation where if possible the wind can also blow, but where there is freedom from dust. The persimmons should be squeezed and manipulated by hand every 4 or 5 days, so as to assist them in drying uniformly and prevent them from becoming hard in spots. After they have been drying thus for about three weeks, they are taken down strings and all and a cool place is selected where they are all put into a big heap and covered over with matting. They are now allowed to sweat for ten days, during which process a dry white powder of sugar forms itself on the surface of the fruits. When sufficiently cured they are hung up again for a couple of days, preferably in the wind, so

Diospyros kaki. Persimmon.

"A vista in an old persimmon orchard in which the soil has been sown to lentils and field peas. The Chinese do not plant orchards all of one variety, on the contrary, they seem to enjoy as much mixture as they can possibly put in. In this district we have obtained fifteen different varieties." Photo by F. N. Meyer, Village of Nan to tchu, south of Sianfu, Shensi, China, Jan. 22, 1914.

Diospyros kaki. Persimmon. S.P.I. No. 37648.

"One of the best varieties of dried persimmons to be had in China called "Ho erh sze ping," meaning "Pared dried persimmons," coming from near Fuping, Shensi. These fruits taste better than figs to most people." Photo by F. N. Meyer, Peking, China, April 21, 1914.

as to let them dry off. In the meantime the peelings have been carefully dried in the sun and kept in airy baskets. The fruits are now taken from the strings and put in baskets and jars with the dried peelings in between and over them and they are now ready for the consumer. Another method of drying which is practiced often with the smaller varieties, is to run in a spiral or horizontal way a knife point through the skin of the fruits, and then to put them in the sun on coarse matting. After they have dried for several weeks, they are thrown into a pile and covered up with matting or sacking, allowing them to sweat. When through with this process they are ready for the market. Persimmons treated like this are as a rule of much inferior quality to those that have been given more care but on the other hand they sell so cheaply that even coolies and beggars regale themselves on them. These dried persimmons are a most wholesome and pleasant food, comparing very favorably with dried figs, and often even preferable to them, being less revoltingly sweet and not possessing the multitude of objectionable small seeds. There are large sections in the United States, especially in the Southwest, where no doubt the dried persimmon industry could be successfully established and with up-to-date methods of artificial drying and curing a much cleaner and probably superior article could be obtained than the product seen in China and the nation would be richer by a new and wholesome food product." (Meyer's introduction.) For distribution later.

Lonicera chrysantha. (Caprifoliceae.) 37643. Seeds of a honeysuckle from St. Petersburg, Russia. Presented by the Director, Imperial Botanic Gardens. "This species of Lonicera which is valued chiefly for its dark red fruits is one of the most conspicuous of the early flowering species. It is a native of eastern Siberia, and since its introduction by Mr. E. H. Wilson in 1910 has proved perfectly hardy in the Arnold Arboretum." (Arnold Arboretum Bulletin of Popular Information, April, May, 1912.) For distribution later.

Prunus armeniaca. (Amygdalaceae.) 37474. Cuttings of an apricot from near Ling Pau, Honan, China. "An apricot, said to bear large fruits, which are red cheeked on the side facing the sun, and of whitish color on the shaded side. The tree grows to a large size." (Meyer's introduction.) For distribution later.

Solanum quitoense. (Solanaceae.) 37566. Seeds of the 'naranjilla' from Guayaquil, Ecuador. Presented by Mr. Frederic W. Goding, American Consul-General. "A native

fruit of Ecuador. Seeds obtained from a small fruit resembling an orange, with a diameter of a trifle more than an inch, very sour, but used locally for salads and refreshing drinks. Delicious ices are also prepared with its juice. The tree grows to a height of four or five feet in a moderately warm climate, a few hundred feet above the sea level." (Goding.) For distribution later.

Spiraea veitchii. (Rosaceae.) 37610. Seeds of a spiraea from Kew, England. Presented by Sir David Prain, Director, Royal Botanic Gardens. "This is a new species which was discovered in China by Mr. E. H. Wilson and through him it has been introduced into cultivation. The plant forms a neat compact shrub, with thin growths six to eight feet long, of a reddish brown clothed with small glaucous-green, oblong-lanceolate leaves serrate along their apical portion. The flowers of the short side growths along the whole length of the previous year's shoots are in terminal corymbs, pure white and very showy in mass." (Hortus Veitchii, p. 379.) For distribution later.

Spiraea wilsoni. (Rosaceae.) 37611. Seeds of a spiraea from Kew, England. Presented by Sir David Prain, Director, Royal Botanic Gardens. "This spiraea which was introduced a few years ago from China by Mr. E. H. Wilson has proven to be a most valuable addition to our deciduous flowering shrubs. Robust in growth it forms a large spreading bush, five to six feet in height. The inflorescense of white flowers terminate short axillary shoots, which develop from the upper two thirds of last year's vigorous shoots. As these bend over in a graceful, arching manner, a bush in full flower presents a pleasing picture. The flowers are borne in flattened, rather compact, rounded corymbs about the middle of June. The corymbs are about one and one-half to two inches across, the individual flowers a quarter of an inch in diameter. This shrub makes a nice lawn specimen for small or large gardens, while for large clumps and shrubby borders it is well worth consideration." (The Garden, Aug. 30, 1913.) For distribution later.

Syringa sp. (Oleaceae.) 37647. Cuttings of a lilac from Sianfu, Shensi, China. "A lilac of slender growth, the flowers of which are said to be of a peculiar deep shade of blue and though the individual panicles are small, they are produced in such profusion, so as to make a striking impression." (Meyer's introduction.) For distribution later.

Tamarix sp. (Tamaricaceae.) 37483. Cuttings of tamarisk from Sianfu, Shensi, China. "A tamarisk of large

growth, able to withstand drought and alkali to a great degree. Of value especially for those semi-arid sections of the United States where the winters are not too severe. Chinese name 'Shan tchun liu', meaning mountain spring willow." (Meyer's introduction.) For distribution later.

"It is peculiar that the tamarisk is listed by a number of nursery companies as an ornamental for the humid areas of eastern United States and is commonly employed in that way. Rarely is any mention made in nursery catalogues of its adaptibility for dry-land conditions. The writer was made acquainted with its drought-resistant qualities accidentally through having obtained a single specimen for planting in a yard in the southwestern plains. It was soon found to be by far the most drought-resistant and otherwise hardy of all the trees and shrubs planted on the same land, including about twenty species. There appears to be no limit in dryness of the soil on any usual Great Plains farm beyond which this plant will not survive. It is also best fitted for saline soil of all plants yet known to the writer. It has an extremely rapid growth, and, by branching out close to the ground, produces an excellent close hedge which will soon turn some kinds of stock even with its absence of thorns. None of the species known to the writer grow very tall, not ordinarily more than twenty feet, though two rather old specimens have been observed near the courthouse at Tascosa, Texas, 12 to 15 inches in diameter.

"To the ordinary observer, not a specialist in botany, the plant is best described by saying that it most resembles asparagus. It has a tendency to make a very scraggy growth and will not grow erect with the lower limbs very far from the ground unless carefully and constantly pruned to that end. Botanically it belongs to the order Tamariscineae. It bears very small scale-like leaves and small pink or white flowers, which are either four or five parted.

"An interesting thing about tamarisk, and of the greatest importance where these trees are adapted and where nursery stock is not easily obtained, is the fact that the plant can be readily propagated by means of cuttings. After two or three years' growth, therefore, of from one to one dozen specimens there need to be no further purchase of stock, as there is plenty of material in the way of cuttings from these trees for all ordinary planting purposes. If advantage is taken of an opportunity to put the cutting in the ground soon after a rain, no further attention is needed other than good cultivation, and during an average season on the driest farms in the Great Plains the trees will thereafter succeed without a question." (Mark Alfred Carleton, Science, May 8, 1914.)

Viburnum sargenti. (Caprifoliaceae.) 37612. Seeds of a viburnum from Kew, England. Presented by Sir David Prain, Director, Royal Botanic Gardens. "This shrub usually grows from five to eight feet tall, with upright branches which, on adult plants, assume a dark gray corky appearance. The leaves are roundish ovate to obovate, usually three-lobed, rounded to square at the base, two and one-half inches long and two inches broad, dark yellowish green and smooth above, pale green and somewhat pilose beneath. The flattish corymbose flower cluster, with prominent showy neutral flowers surrounded by the corymbs, and the fertile flowers with purple anthers come in blossom about the first of June. The subglobose or rounded fruit, scarlet or orange-scarlet, ripens in September. This species greatly resembles *Viburnum americana,* but differs from it in its more upright habit, larger ray flowers and the fruits which are not as brilliant and are considerably smaller and less abundant. *Viburnum sargenti* is perfectly hardy at Rochester, N. Y., and there it is a very useful park and garden shrub." (Joseph Meehan, Florist's Exchange, May 20, 1911.)

Ziziphus jujuba. (Rhamnaceae.) 37475-476, 37484, 37489, 37659, 37668. Cuttings of jujubes from Honan, Shensi, and Shansi, China. Among these six jujubes is one variety often bearing fruits as big as small hen's eggs, locally much used baked in bread, the trees of which are grown in large groves, the total acreage around Ling Pau, Honan, probably running well into the hundreds. Another variety has fruits good for drying as well as for eating fresh, and others are grown as ornamental trees. (Meyer's introductions.) For distribution later.

NOTES FROM CORRESPONDENTS ABROAD.

Mr. O. F. Cook, who is now conducting an expedition to Guatemala, in cooperation with this office, writes from Trece Aguas, Guatamala, May 19, 1914. "After a little more study of the seeds of the supposed Reinhardtia palm, I am inclined to think that it will be rather hard to get them through alive, for the texture of the albumen is rather soft and loose, and there is no shell at all, only a thin membrane. Because of these characteristics I hope you have sent them right through to Florida without having the seeds cleaned as I first suggested. If we go out by Livingstone I shall try to get another supply of the trees with better fruit than those at Belize.

"I believe I wrote you that the Paurotis palm at Belize had no fruit this year, and I am inclined to think that it is rather an off season generally for palms in this part

of the world. But we have not gone very far in yet and there should be no question about the Pacaya or salad palm, which grows in such large quantities about Coban, and I have another candidate in a related species, also having an edible inflorescence but smaller. The advantage is that this species is stoloniferous, which makes it much easier to propagate. It is a very graceful species, much like the true pacaya in general appearance. We know it as yet, only by the native name, sagui-quit.

"Accounts of the avocados are favorable though there are none in the immediate vicinity. The question of season is most uncertain though. Some say that July and August are the principal months for the hard shelled forms, and others that the season has already passed, being in February and March. Whether this indicates a local varietal difference does not yet appear."

SCIENTIFIC STAFF OF THE OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION OF THE BUREAU OF PLANT INDUSTRY.

Washington Staff.

David Fairchild, Agricultural Explorer in charge.
P. H. Dorsett, Plant Introducer in charge of Plant Introduction Field Stations.
Peter Bisset, Plant Introducer in charge of Foreign Plant Distribution.
Frank N. Meyer andWilson Popenoe, Agricultural Explorers.
George W. Oliver, Plant Breeder and Propagator.
H. C. Skeels, Botanical Assistant, in charge of Seed Collections and Office Herbarium.
S. C. Stuntz, Botanical Assistant, in charge of Explorers' Notes, Foreign Correspondence, and Publications.
R. A. Young, Botanical Assistant, in charge of Dasheen Investigations.
E. L. Crandall, Photographer.

Staff of Field Stations.

R. L. Beagles, Assistant Farm Superintendent in charge of Chico, Calif., Plant Introduction Field Station.
H. Klopfer, Plant Propagator.
J. M. Rankin, Assistant Farm Superintendent in charge of Rockville (Yarrow), Md., Plant Introduction Field Station.
Edward Goucher, Propagator.
Edward Simmo ds, Gardener and Field Station Superintendent in charge of Miami, Fla., Plant Introduction Field Station.
W. H. F. Gomme, Assistant Farm Superintendent in charge of Brooksville, Fla., Plant Introduction Field Station.
S. A. Beach, Field Station Superintendent in charge of Ames, Iowa, Plant Introduction Field Station.
J. H. Allison, Expert.

Collaborators.

Mr. Aaron Aaronsohn, Haifa, Palestine.
Mr. Thomas W. Brown, Cairo, Egypt.
Dr. Gustav Eisen, California Academy of Sciences, San Francisco, Calif.
Mr. E. C. Green, Coroata, Maranhao, Brazil.
Mr. A. C. Hartless, Saharanpur, India.
Mr. H. Harold Hume, Glen St. Mary, Fla.
Mr. Barbour Lathrop, Chicago, Ill.
Mr. William S. Lyon, Manila, Philippine Islands.
Mr. William H. Raynes, Tallahassee, Fla.
Mr. J. F. Rock, Honolulu, Hawaii.
Miss Eliza R. Scidmore, Yokohama, Japan.
Mr. Charles Simpson, Little River, Fla.
Dr. L. Trabut, Algiers, Algeria.
Mr. E. H. Wilson, Arnold Arboretum, Jamaica Plain, Mass.